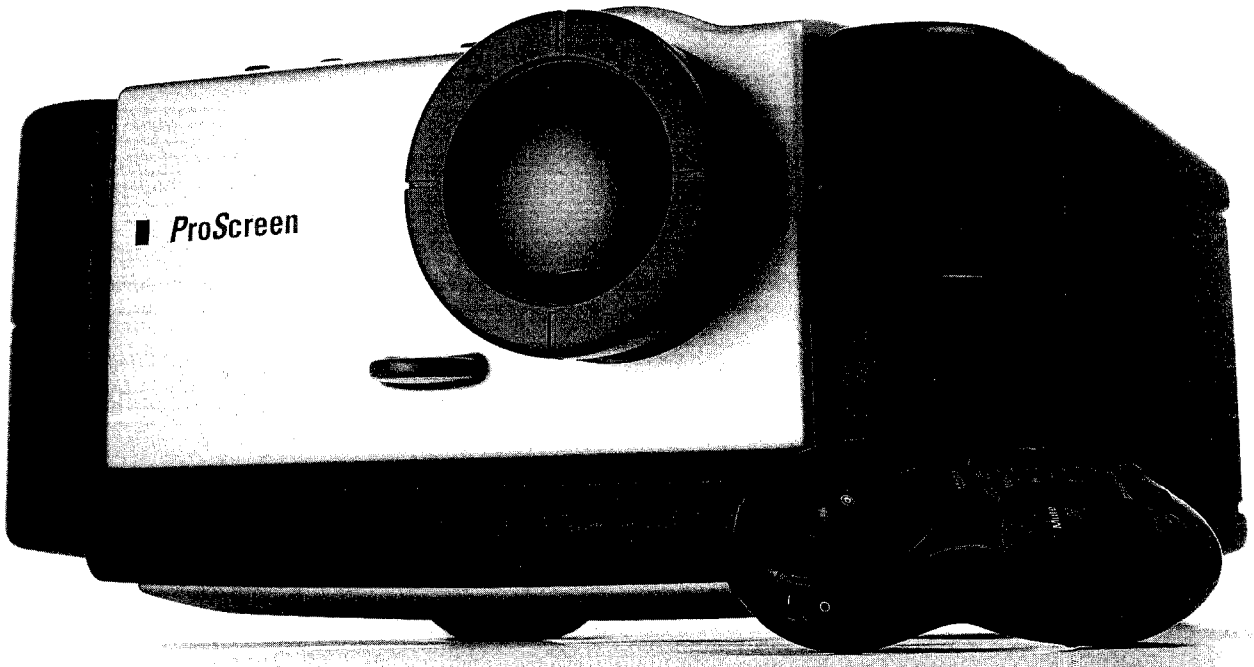
User guide

ProScreen 4500/4600 LCD projector



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IMPORTANT NOTES FOR USERS IN THE U.K.

Mains plug

This apparatus is provided with a mains lead equipped with a standard mains Euro connector.

If the fitted plug is not suitable for your socket outlets, it should be cut off and an appropriate 3-pin plug fitted in its place.

If the mains plug contains a fuse, this should have a value of 13 Amp. If a plug without a fuse is used, the fuse at the distribution board should not be greater than 13 Amp.

Note: The severed plug must be disposed to avoid a possible shock hazard should it be inserted into a 13 Amp socket elsewhere.

How to connect a plug

The wires in the mains lead are coloured in accordance to the following code:
BLUE = neutral (N), BROWN = live (L).
GREEN and YELLOW = Earth (E)
As these colours may not correspond with the colour markings identifying the terminals in your plug, proceed as follows:

- Connect the BLUE wire to the terminal marked N or coloured BLACK.
- Connect the BROWN wire to the terminal marked L or coloured RED.
- The GREEN and YELLOW wire must be connected to the terminal in the plug which is marked with the letter 'E' or by the earth symbol ⏚ or coloured GREEN or GREEN & YELLOW.

If in doubt or if you are unable to connect a mains plug, consult a competent electrician.

Before replacing the plug cover, make certain that the cord grip is clamped over the sheath of the lead - not simply over the three wires.

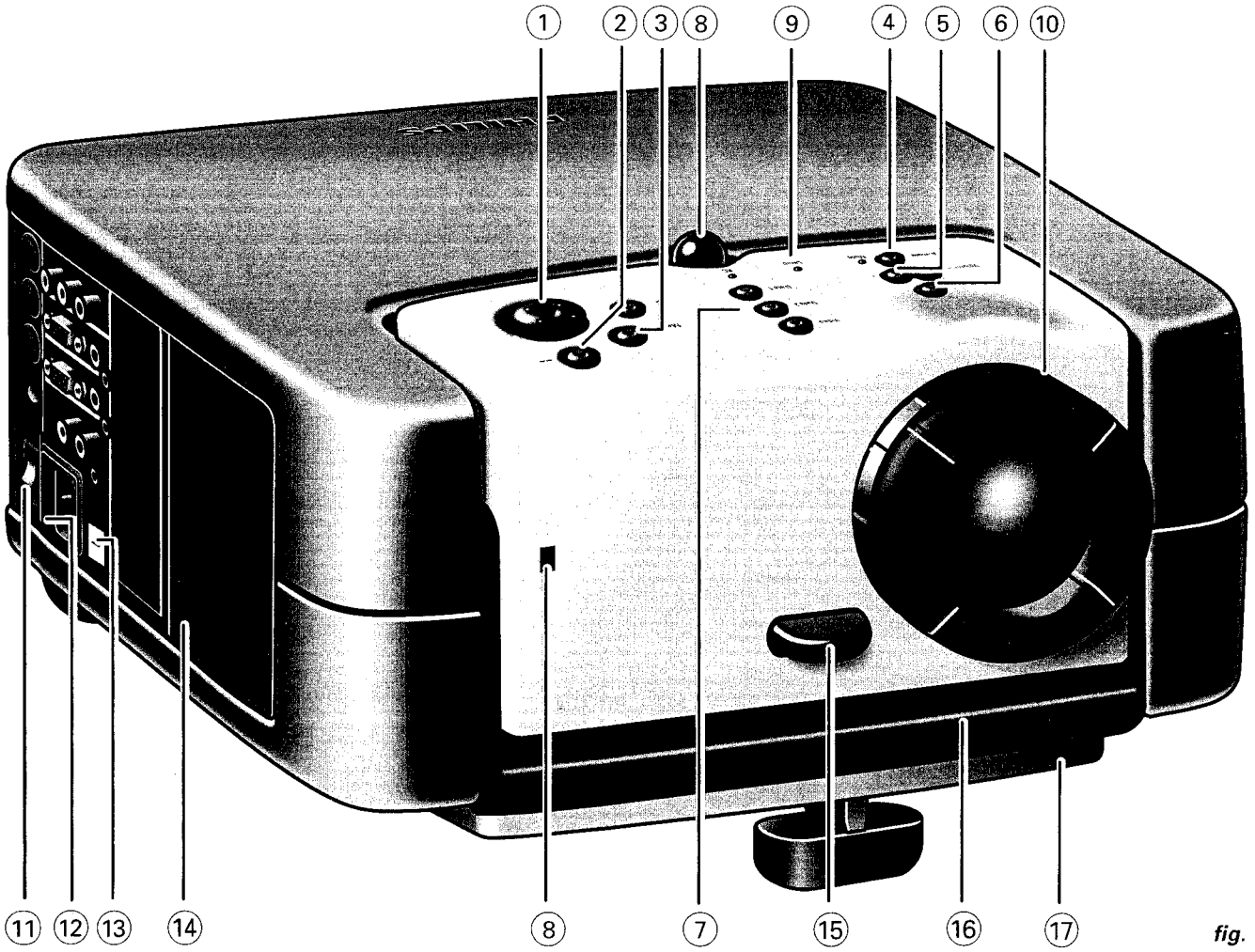

fig. 1

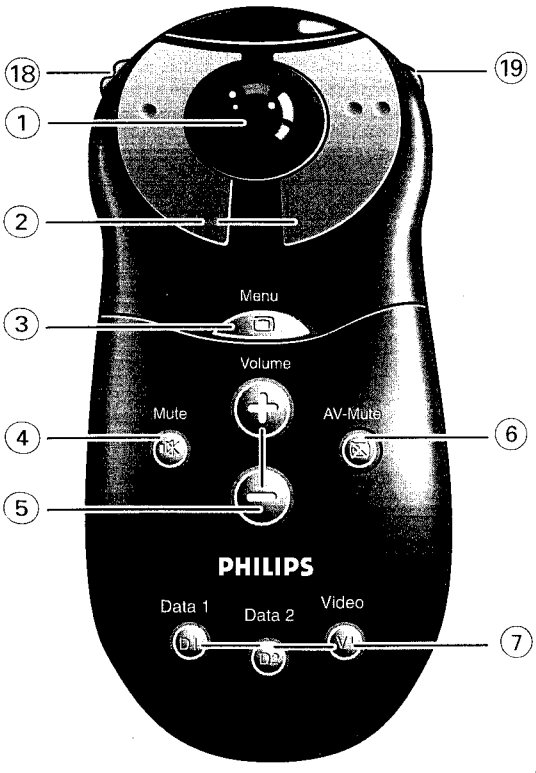

fig. 2

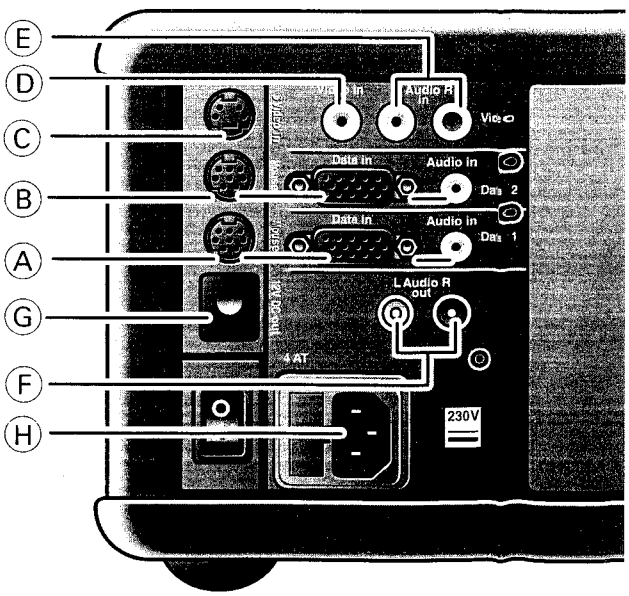

fig. 3

English

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INTRODUCTION

Congratulations on your purchase of one of the most sophisticated and reliable products on the market today. We are sure that, used properly, it will bring you years of enjoyment. You will want to keep this manual handy, as it is a convenient source of information about your projector. For your own protection and prolonged operation of your projector, please read the 'Important Safeguards' section before use.

PACKAGING CONTENTS

Please confirm that the following items are packed in the projector box. They are provided to help you use or set up your projector.

- Projector
- 3 LR 6/AA/1,5 V Batteries
- Mains lead
- VGA Cable
- VGA MAC Adaptor
- Video/Audio RCA Cable
- Mouse Cable 8-pin mini Din to RS232
- Mouse Cable 8-pin mini Din to ADB
- User guide
- Remote control pouch:
  - Remote control;
  - Installation guide for remote control;
  - Remote control installation diskettes.

Note:

This equipment has been tested and found to comply with the limits for a Class A digital device, in accordance with Part 15 of the FCC Rules as well as the European CE marking.

These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the user's guide, may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
- Reorientate or relocate the receiving antenna.
- Increase the distance between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Warning:

To assure continued compliance, use only the provided grounded power supply cord and shielded interface cables when connecting this device to a computer. Also, any unauthorized changes or modifications to this equipment could void the user's authority to operate this device.

IMPORTANT NOTE:

Your Philips ProScreen projector offers you the possibility to control your computer-mouse via the remote control. In the remote control pouch, you will find an instruction guide and two remote control installation diskettes.
Please follow the installation instructions on page 17 or in the installation guide in the remote control pouch.

3. IMPORTANT SAFEGUARDS

CAUTION: Please read all of these instructions before you operate your projector. Save these instructions for future reference.

Electrical energy can perform many useful functions.
This projector has been engineered and manufactured to meet applicable safety standards. IMPROPER USE CAN RESULT IN POTENTIAL ELECTRICAL SHOCK OR FIRE HAZARDS. In order not to defeat the safeguards incorporated into this projector, observe the following basic rules for its installation, use and servicing.

1. Unplug the projector from the wall outlet before cleaning or lamp replacement.
2. Do not use liquid cleaners or aerosol cleaners. Use a soft dry cloth to clean the projector unit. If the unit is very dirty, wet a cloth with neutral detergent, squeeze it tight, wipe the unit with it, and finish by wiping with a dry cloth. Do not use a chemical duster or polisher-cleaner because it can adversely affect the unit and peel the paint.
3. Do not use attachments not recommended by PHILIPS, as they may cause hazards.
4. Do not use the projector near water- for example, near a bathtub, washbowl, kitchen sink, or laundry tub, in a wet basement, near a swimming pool, etc. Never spill liquid into the projector.
5. Do not place the projector on an unstable cart, stand, or table. The projector may fall, which may cause serious injury to a child or an adult and/or serious damage to the unit. Use only with a cart or stand recommended by its manufacturer as being suitable for use with a projector.
6. Ceiling, wall or shelf mounting should be done with a mounting kit approved by the manufacturer for use with a projector and should follow the manufacturer's instructions.
7. Projector equipment and cart combinations should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the equipment and cart combination to overturn.
8. Slots and openings in the back and underside of the cabinet are provided for ventilation. To ensure reliable operation of the projector and to protect it from overheating, these openings must not be blocked or covered. These openings should never be covered with cloth or other material. The bottom opening should not be blocked by placing the projector on a bed, sofa, rug, or other similar surface. The projector should not be placed near or over a radiator or heating vent. The projector should not be placed in a built-in installation such as a bookcase unless proper ventilation is provided.
9. The projector should be operated only from the type of power source indicated on the side of the projector or in the specifications. If you are not sure of the type of power supplied to your business, consult your projector dealer or local power company.
10. Do not allow anything to rest on the power cord. Do not place the projector where the cord will be walked on.
11. Follow all warnings and instructions marked on the projector.
12. As a safety feature, this projector is equipped with a 3-pin grounded plug (for USA-versions only) or a 2-pin grounded plug (for European versions only). The 3-prong/2-prong grounded plug will fit only into a grounding type power outlet. If the plug does not fit, use an adaptor that is properly grounded or have an electrician install a grounded type outlet. Do not attempt to modify this AC plug.
13. For added protection of the projector during a lightning storm, or when it is left unattended or not in use for long periods of time, unplug it from the wall outlet and disconnect any cable systems. This will prevent damage to the projector due to lightning and power-line surges.
14. Do not overload wall outlets and extension cords with too many products, because this can cause a fire or electric shock.
15. Never push objects of any kind into the projector through cabinet slots as they may touch dangerous voltage points or short cut parts, which could result in a fire or electric shock.
16. Do not attempt to service the projector yourself. Opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
17. Unplug the projector from the wall outlet and refer servicing to qualified service personnel under the following conditions:
    - **A.** When the power cord or plug is damaged or frayed.
    - **B.** If liquid has been spilled into the projector.
    - **C.** If the projector has been exposed to rain or water.
    - **D.** If the projector does not operate normally when you follow the operating instructions. Adjust only those controls that are covered by the operating instructions; improper adjustment of other controls may cause damage and will often require extensive workby a qualified technician to restore the projector tonormal operation.
    - **E.** If the projector has been dropped or the cabinet has been damaged.
    - **F.** When the projector exhibits a distinct change in performance – (this indicates a need for service).
18. Upon completion of any service or repairs to the projector, ask the service technician to perform a routine safety check to check that the projector is in safe operating condition.
19. When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer that have the same characteristics as the original parts. Unauthorized substitutions may result in fire, electric shock, or other hazards.
20. The air filter must be cleaned after every 100 lamp hours. The projector may become too hot if the filter is not cleaned when required.
21. If the lens becomes dirty or smudged, clean it with a clean, dampened cloth. Never touch the lens with your fingers.
22. Do not look directly into the aperture and lens while operating the projector as this may damage your eyes.
23. When replacing the fuse, always use the same type of fuse: WICKMANN 19181.4AT - 250V.
    (High breaking 4 Amp Time-lag; 5 x 20 mm.)

4. PROJECTOR FEATURES

1. **Fully compatible with PC and MAC**
   The Philips Limesco solution enables perfect interfacing with all sorts of PC and MAC standards.
   Optimum picture quality is guaranteed in all modes.
   The projector will adapt automatically to the proper data source.
   Signals from PC and MAC compatible computers will be accepted without additional hardware.

2. **High reliability and excellent brightness**
   The Philips UHP lamp guarantees long life, excellent brightness over the lamp's lifetime and excellent colour reproduction. Furthermore, the projector has an excellent uniformity of brightness over the whole screen.

3. **Excellent video quality**
   The Philips line doubling technology ensures excellent video quality.
   The projector accepts the input signal of all major video formats, including PAL, SECAM, NTSC and the higher quality S-Video signals. The projector will recognize these standards and adapt to them automatically.

4. **Very easy to install and operate**
   The **OSD** (On Screen Display: information screens and menus) in 6 languages provides you with additional information to help you make the right choices about installation and operation, and to perform the correct actions.
   The standard OSD language is English. In addition you can select French, Spanish, German, Italian and Portuguese.

   The front and top sensors of the ergonomic, wireless **Remote Control** allow you to operate both your computer as well as your projector from almost anywhere in the room. The **trackball** on the remote control and the **directional shuttle** on the projector function as **cursor control** and are used to manipulate the mouse cursor on the connected computer as long as the menu is not active. When the menu is active the cursor control controls the menu cursor.

   The remote and local keyboard provides direct access buttons for those functions that are most often used during presentations:
   Source selection buttons
   With the VIDEO, DATA-1 and DATA-2 buttons you can directly select the required source: S-video, video, data-1 or data-2.
   Mute
   Mutes the sound of the projector (or an externally connected sound amplifier).
   A/V (Audio/Video) Mute
   Blanks out the screen and mutes the sound of the projector (or an externally connected sound amplifier).
   - VOLUME +
   For adjusting the volume.

   Further functions are:
   PP-save
   This feature allows you to save sound and picture settings as a Personal Preference.
   PP-recall
   This feature allows you to recall the saved sound and picture settings (Personal Preference) as well as the factory presets.
   White point
   Using the 'white point' feature you can change the overall picture impression from warm white to cool white.

5. **Stereo Audio Output**
   Line output for connecting external audio equipment.

6. **9 to 519 Inch (0.23 m to 13.2 m) Screen Capability**
   9" (0.23 m) to 519" (13.2 m). (See table on page 8).

7. **Rear screen projection**
   The projector is equipped with a reverse scan function ('horizontal mirror'), which allows the image to be reversed for rear projection applications.

8. **Compact and lightweight**
   Completely portable, you can give attractive presentations at any location by connecting the projector to a notebook, video source etc.

5. FUNCTIONAL OVERVIEW

See illustrations on page 3

CONTROLS *(fig. 1 and 2)*

On projector and remote control

① **Cursor control**
For manipulating the mouse cursor on the connected computer as long as the menu is not active. When the menu is active the cursor control controls the menu cursor.
Note: *The cursor control only functions when one or both Mouse sockets of the projector are connected to the serial port of a PC or the ADB terminal of an Apple Macintosh computer.*

② **– and – –**
For activating and deactivating items in the menu when the menu is on screen.
When the menu is not on screen the – and – – buttons function as the Left and Right mouse buttons of your PC.

③ **MENU**
For activating and deactivating the menu.

④ **MUTE**
For muting the sound of the projector (or an externally connected sound amplifier).

⑤ **– VOLUME +**
For adjusting the volume.

⑥ **A**(audio)/**V**(video)**-MUTE**
For muting the sound of the projector (or an externally connected sound amplifier) and for muting the picture.

⑦ **Source selection buttons**
VIDEO – For selecting the video signal or S-video signal as the current projection source.
The button toggles between video and S-video signal.
DATA-1 – For selecting the DATA-1 signal as the current projection source.
DATA-2 – For selecting the DATA-2 signal as the current projection source.

On projector only

⑧ **IR sensors**
Receive the signals from the remote control.

⑨ **Indicators**
Mute indicator
Flashes red when Mute or A(audio)/V(video) Mute is active.
Lamp indicator
– Flashes green when the lamp is starting up.
– Lights up green when the lamp is on.
– Flashes red when the remaining lamp life is less than 100 hours.
– Lights up red when an error occurs in the projector, when lamp start has failed or when the lamp is completely worn-out.
Remote Control indicator
Flashes green when the remote control is operated and the projector responds to this operation.

⑩ **FOCUS ring and ZOOM ring**
For adjusting the focus and the size of the projected image.

⑪ **ON/OFF**
For switching the projector on and off.

⑫ **Fuse holder (+ spare fuse)**

⑬ **Voltage selector**
For selecting the correct mains voltage (110 V/220 V).

⑭ **Lamp cover**

⑮ **HEIGHT/LEVEL adjuster**
For adjusting the vertical angle of the projector.

⑯ **Carrying handle**

⑰ **Dust filter**

On remote control only

⑱ **On/off button**
For switching the remote control on and off.
Note: *The remote control will always use some power, even when not in use. Therefore always switch off the remote control after use.*

⑲ **Light button**
For switching on the button illumination
The back-light will switch off automatically after 5 seconds.

CONNECTIONS *(fig. 3)*

Data source input connections

Ⓐ **MOUSE**
In-/output socket for connecting to the serial port of a PC or the ADB terminal of an Apple Macintosh computer.
DATA IN
Input socket for connecting to the DATA OUT terminal of a computer.
AUDIO IN
Input socket for connection to the AUDIO OUT socket of a computer.

Ⓑ **MOUSE**
In-/output socket for connecting to the serial port of a PC or the ADB terminal of an Apple Macintosh computer.
DATA IN
Input socket for connecting to the DATA OUT terminal of a computer.
AUDIO IN
Input socket for connection to the AUDIO OUT socket of a computer.

Video source input connections

Ⓒ **S-VIDEO IN**
Input socket for connecting to the S-VIDEO OUT socket of a S-VHS video recorder, a VCR, Laser Disc player, video camera or TV with AV output socket.

Ⓓ **VIDEO IN**
Input socket for connecting to the VIDEO OUT socket of a video recorder, Laser Disc player, video camera or TV with AV output socket (PAL, NTSC, SECAM).

Ⓔ **AUDIO IN L/R**
Input sockets for connection to the AUDIO OUT sockets of a video recorder (S-VHS, PAL, NTSC, SECAM).

Audio output connections

Ⓕ **AUDIO OUT L/R**
Output sockets for connecting to the Line Input sockets of an amplifier or stereo system.

Other connections

Ⓖ **12V/DC OUT** (420 mA max, – ⊖ +, type A, ø 2mm)
Output socket for connecting accessories to the projector.

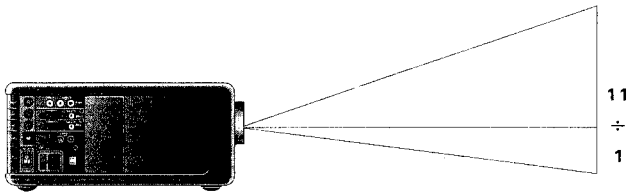
Ⓗ **MAINS**
For connecting the projector to the mains.

6. SET UP

English

POSITIONING THE PROJECTOR AND SCREEN

- Place the projector on a stable, level surface, out of direct sunlight and away from sources of excessive dust, dirt, heat, water, moisture, vibration and strong magnetic fields. Face the projector towards the screen for the best picture results. To determine the distance for the desired size, please refer to the section 'Distance between the projector and the screen' below.



- The screen should be positioned so that it is not directly touched by sunlight or artificial light, as this will wash out the colours of the picture, making it hard to see.
- The projector can be used for both front projection and rear projection applications. As default factory setting, the projector has been set up for front projection. You can change to rear projection via the OSD menu. See 'Rear screen projection' under 'Other settings' for further instructions.

DISTANCE BETWEEN THE PROJECTOR AND THE SCREEN

- Choose a screen size suitable for the number of viewers and the size of the room. The distance between the projector and the screen also depends on the required screen size (see below).

– Picture quality is best when you sit directly in front of the projector screen.

Distance to screen	**Picture diagonal**	
	Min	**Max**
24" (0.6m)	9" (0.23m)	14" (0.36m)
80" (2m)	33" (0.84m)	51" (1.30m)
160" (4m)	68" (1.70m)	101" (2.60m)
240" (6m)	103" (2.60m)	155" (3.90m)
400" (10m)	172" (4.40m)	259" (6.60m)
800" (20m)	345" (8.80m)	519" (13.20m)

MAINS SUPPLY

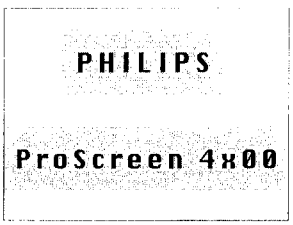
Warning: *Make sure the voltage selector is set to your local mains voltage (115V or 230V). If an incorrect voltage is selected, the fuse will burn out and the projector will not operate! See also 'Replacing the fuse' under 'Maintenance'.*

1. Insert the mains lead into the projectors MAINS socket and connect it to the wall socket.

2. Set the ON/OFF switch to ON in order to switch on the power.

– The lamp indicator flashes green and the start-up screen appears for 5 seconds.

– When the projection lamp is on, the lamp indicator lights up green.

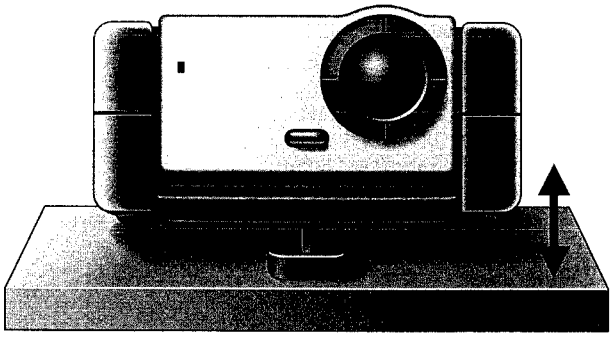


ADJUSTING THE FOCUS AND SIZE OF THE IMAGE

- Use the FOCUS ring and ZOOM ring to adjust the focus and size of the image.

ADJUSTING THE VERTICAL ANGLE OF THE PROJECTOR

- Use the Height/Level Adjuster to adjust the vertical angle of the projector as specified under 'Positioning the projector and screen'.



To Raise: press the adjuster carefully and lift to raise the projector.
To Lower: press the adjuster carefully again to lower the projector.

- Use the FOCUS Ring and ZOOM Ring to readjust the focus and size of the image.

Notes:

– *When adjustments are not properly made, the picture may become distorted, depending on the relative positions of the projector and the screen.*

– *If the projector and the screen are not properly placed, the picture will be distorted, producing a keystone image as shown at right.*

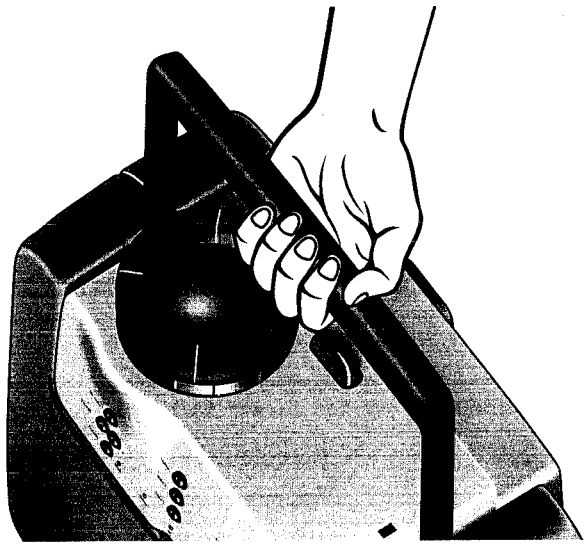
Keystoned image

CAUTION!

When all required adjustments have been made, set the ON/OFF switch to OFF before making any other connections (see 'Installation').

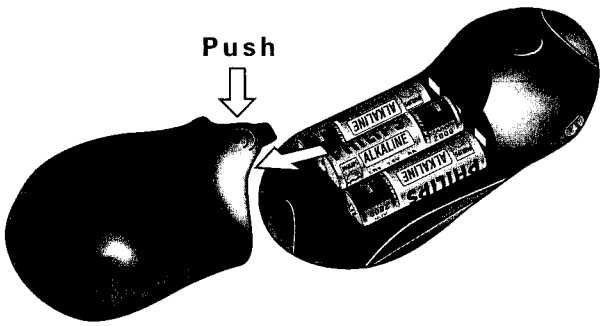
MOVING THE PROJECTOR

1. First, set the ON/OFF switch to OFF and disconnect the mains lead.
2. Disconnect all other cables.
3. Make sure the lens is turned back in to prevent damage to the lens.
4. Grasp the projector's carrying handle.



Note: *Never place the projector on the side where the connections are located.*

INSERTING THE BATTERIES IN THE REMOTE CONTROL



1. Push and slide the lid in the direction of the arrow.
2. Install three 'AA' batteries as indicated inside the battery compartment.
3. Replace the lid and snap into place.

Caution: *Do not mix old and new batteries (also never mix alkaline and manganese batteries).*

Note: *The maximum range of the remote control is 20 m (± 65 feet).*

7. INSTALLATION — Video/computer cables and adaptors

VIDEO/COMPUTER CABLES AND ADAPTORS

These accessories are supplied for connecting the projector to computer/AV equipment. The numbers in the left-hand column correspond with the numbers in the connection diagrams on the following pages.

No.	CABLE/ADAPTOR	PORT		LENGTH
		Projector side	Computer/AV products side	
1	VGA Cable	D-Sub M 15P (male)	D-Sub M 15P (male)	2.0 m
2	VGA MAC Adaptor	D-Sub M 15P (female)	MAC 15P (male)	- -
3	Video/Audio Stereo RCA Cable	RCA pin (male) x 3	RCA pin (male) x 3	2.0 m
4	Mouse cable 8-mini Din to RS232	Mini Din 8P (male)	D-Sub M 9P (female)	2.0 m
5	Mouse cable 8-mini Din to ADB	Mini Din 8P (male)	Mini Din 4P (male)	2.0 m

Optional cables: – Audio cable for PC/MAC computers
– S-video cable
– Audio RCA cable

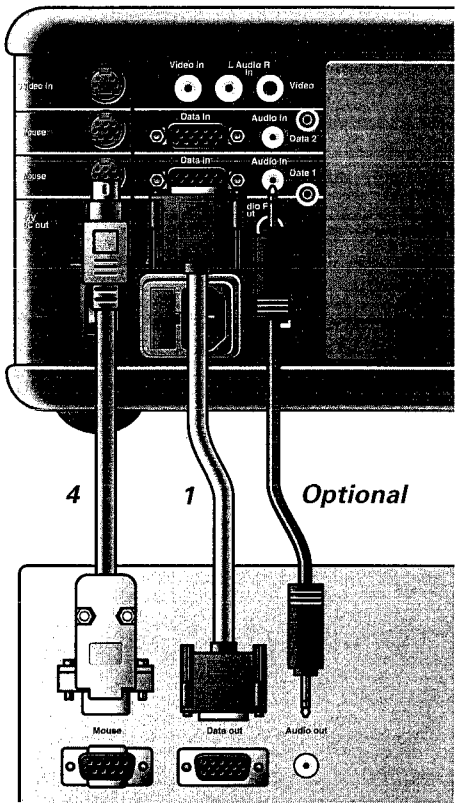
English

CONNECTING TO A COMPUTER

General

- ***Caution:*** *Always switch off the projector before making any connections!*
- The data inputs are suitable for both Apple Macintosh computers (Power Book and Power Mac) as well as for IBM compatible PCs.
- The data output of IBM compatible PCs can be connected directly to the projector using standard data cables. Apple Macintosh computers need a conversion plug (supplied) added to the standard data cables.
- The figures in brackets ***(1)*** correspond to the figures in the diagram on page 9. The characters in brackets ***(a)*** correspond to the characters in ***fig. 2*** on page 3.

PC (Desk Top/Lap Top)



1. Connect the DATA OUT terminal of the computer to the DATA IN terminal ***(a)*** of the projector and secure the plugs by tightening the thumb screws. For this, use the VGA cable ***(1)*** supplied.
2. Connect the serial port of the computer to the MOUSE terminal ***(a)*** of the projector. For this, use the mouse cable ***(4)*** supplied.

– You can now manipulate the mouse cursor on the computer and on the screen, using Cursor Control.

3. If you wish to use audio, connect the AUDIO OUT socket of the computer to the AUDIO IN socket ***(a)*** of the projector. For this, use an optional audio cable.
4. Follow steps ***1-3*** to connect a second PC to the DATA IN and MOUSE terminals ***(b)*** and the AUDIO IN socket ***(b)*** of the projector.

Note:

If the mouse cursor does not react when moving the ***track ball*** *on the remote control:*

- *check that the Remote Control indicator on the projector flashes green when you move the trackball.*

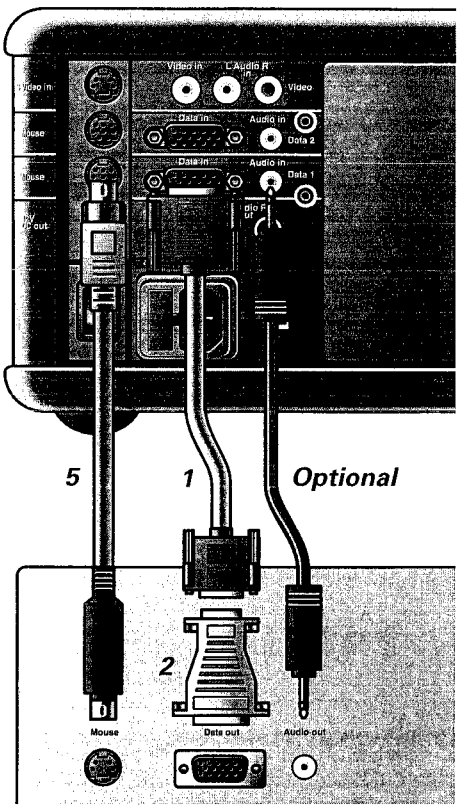
– ***If it does not:*** *Check that you have switched on the remote control. If you have, check that the batteries are installed properly and/or replace the batteries.*

– ***If it does:*** *Install the proper remote control software on your computer as described in the chapter 'Additional information'.*

If the mouse cursor does not react when moving the ***directional shuttle*** *on the projector:*

- *Install the proper remote control software on your computer as described in the chapter 'Additional information'.*

MACINTOSH (Desk Top/Power Book/Power Mac)



1. Connect the VGA/MAC adaptor ***(2)*** supplied to the DATA OUT terminal of the computer and secure the plugs by tightening the thumb screws.
2. Plug the VGA cable ***(1)*** supplied into both the adaptor and the DATA IN terminal ***(a)*** of the projector and secure the plugs by tightening the thumb screws.
3. Connect the ADB port of the computer to the MOUSE terminal ***(a)*** of the projector. For this, use the mouse cable ***(5)*** supplied.

– You can now manipulate the mouse cursor on the computer and on the screen, using Cursor Control.

4. If you wish to use audio, connect the AUDIO OUT socket of the computer to the AUDIO IN socket ***(a)*** of the projector. For this, use an optional audio cable.
5. Follow steps ***1-4*** to connect a second computer to the DATA and MOUSE terminals ***(b)*** and the AUDIO IN socket ***(b)*** of the projector.

Note:

If he mouse cursor does not react when moving ***the track ball*** *on the remote control:*

- *Check that the Remote Control indicator on the projector flashes green when you move the trackball.*

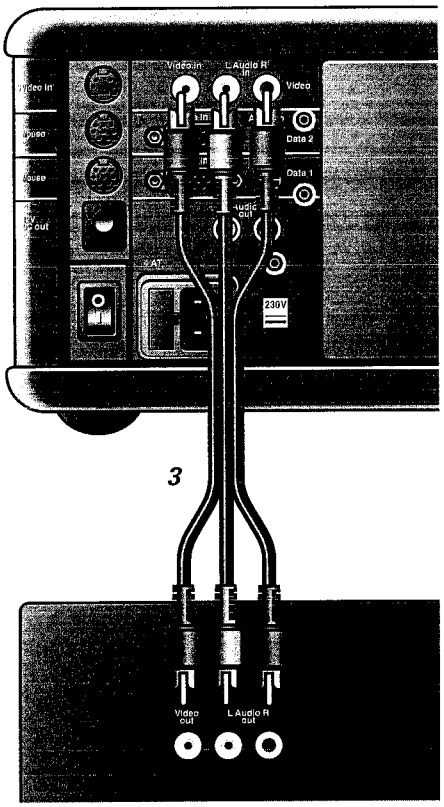
– ***If not:*** *Check that you have switched on the remote control. If you have, check if the batteries are installed properly and/or replace the batteries.*

CONNECTING TO VIDEO EQUIPMENT

General

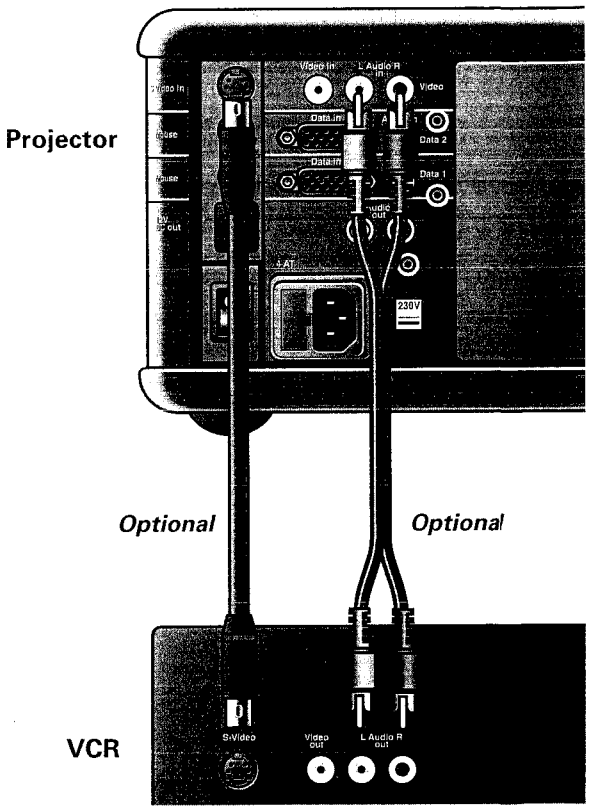
- The figures in brackets ***(1)*** correspond to the figures in the diagram on page 9.
  The characters in brackets ***(a)*** correspond to characters in ***fig. 2*** on page 3.
- ***Caution:*** *Always switch off the projector before making any connections.*

PAL, NTSC, SECAM



1. Connect the VIDEO OUT socket of a VCR, Laser Disc player, video camera or TV to the VIDEO IN socket ***(d)*** of the projector.
   For this, use the video/audio connection cable ***(3)*** supplied.
2. Connect the AUDIO OUT L/R sockets of the VCR, Laser Disc player, video camera or TV to the AUDIO IN L/R sockets ***(e)*** of the projector.
   For this, use video/audio connection cable ***(3)*** supplied.
   Insert the white plug into the L socket and the red plug into the R socket.

S-VHS



1. Connect the S-VIDEO OUT socket of a S-VHS video recorder, Laser Disc player, video camera or TV to the S-VIDEO IN socket ***(c)*** of the projector.
   For this use an *(optional)* S-video connection cable.
2. Connect the AUDIO OUT L/R sockets of the S-VHSvideo recorder, Laser Disc player, video camera or TV to the AUDIO IN L/R sockets ***(e)*** of the projector.
   For this, use an *(optional)* audio connection cable.
   Insert the white plug into the L socket and the red plug into the R socket.

English

CONNECTING TO AUDIO EQUIPMENT

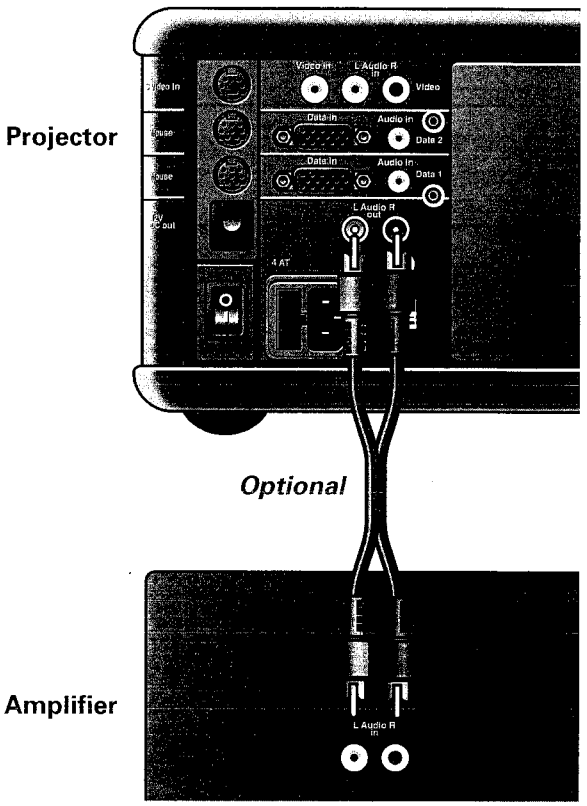
General

– The figures in brackets ***(1)*** correspond to the figures in the diagram on page 9.
The characters in brackets ***(a)*** correspond to characters in ***fig. 2*** on page 3.

– ***Caution:*** *Always switch off the projector before making any connections.*

- Connect the AUDIO IN L/R sockets of an amplifier or stereo system to the AUDIO OUT L/R sockets ***(f)*** of the projector. For this, use an *(optional)* audio connection cable. Insert the white plug into the L socket and the red plug into the R socket.

Note: *When the projector is connected to an external audio amplifier, you cannot control the volume via the projector or the remote control. However, the sound However, can still be muted via the projector or the remote control.*



8. OPERATION

Preparation

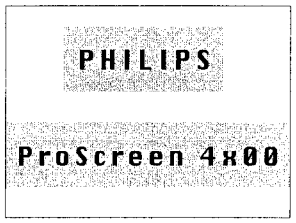
PREPARATION

General

1. Set the ON/OFF switch of the projector to ON in order to switch on the power.

– The lamp indicator flashes green and the start up screen appears for 5 seconds.

– At the start up screen, you may get messages with respect to the lamp life time. For this refer to the chapter 'Lamp' under 'Additional information'.



– When the lamp is on, the lamp indicator lights up green.

2. Set the ON/OFF switch of the remote control to ON in order to switch on the remote control.

Note: *Always switch off the remote control after use.*

3. If required, press the light button of the remote control.

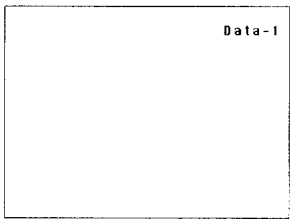
– When this button is pressed the button illumination is switched on for 5 seconds. Every time one of the buttons is pressed within these 5 seconds, the illumination time is extended (by a further 5 seconds).

4. Select the required source (Video, S-Video, Data 1 or Data 2) by pressing the corresponding source selection button.

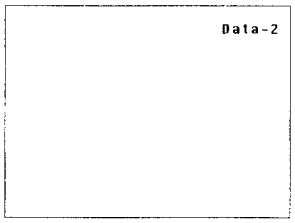
Note: *The source selection button VIDEO toggles between Video and S-video.*

5. Switch on the computer or start video playback.

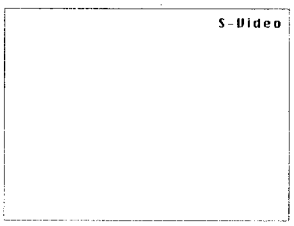
– The following messages may appear on the screen when selecting a source:



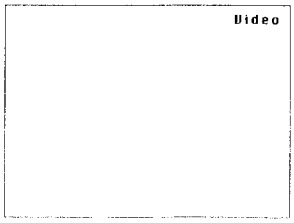
Data 1 selected as source.



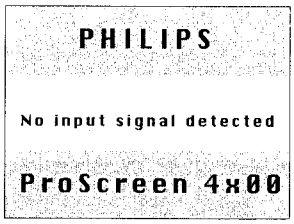
Data 2 selected as source.



S-Video selected as source.



Video selected as source.



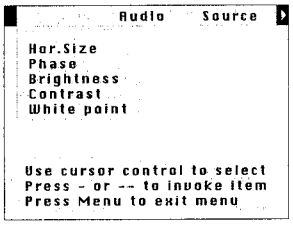
No input signal.

English

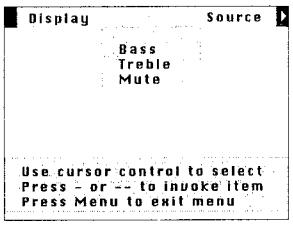
On Screen Display menu - General explanation

All video and data adjustments and settings (except A/V Mute) are done via On Screen Displays and with help of the following controls:
MENU, –, – – and Cursor Control on the projector or the remote control.

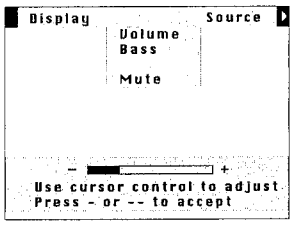
1. Press MENU.
– The menu bar appears on the screen.
The first item is highlighted and its sub menu is shown.



2. Use Cursor Control to move the cursor to any other item in the menu bar.
– When the cursor is moved to ◁ or ▷, the menu bar will scroll to the left or the right.



3. Select the sub menu item to be adjusted using Cursor Control.
4. Press - or – – to activate the item.
5. Adjust the selected item in the action window at the bottom of the screen, using Cursor Control.

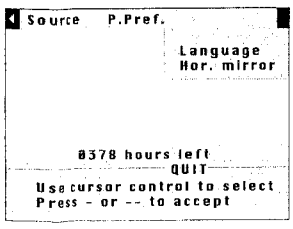


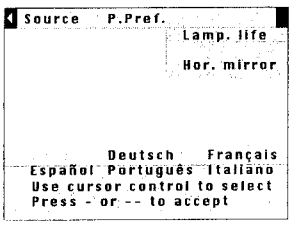
6. Press - or – – to confirm and store the adjustment.
7. Select the next item to be adjusted in the sub menu and adjust as described above.
8. Pressing MENU will also confirm and store the adjustment. In this case the On Screen Display will be closed.

Language selection

The projector can display menus in one of six different languages.

1. Press MENU.
– The menu bar appears on the screen.
2. Use Cursor Control to select MISC(ellaneous) in the menu bar.
3. Use Cursor Control to select LANGUAGE from the sub menu.





4. Press - or – – to activate the LANGUAGE item.
5. Use Cursor Control to select the required language in the action window.
6. Press - or – – to confirm and store the selected language.
7. If required, select the next item to be adjusted or press MENU to exit.

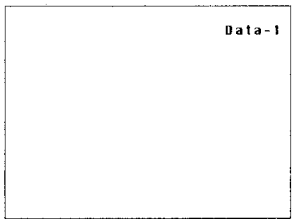
PICTURE CONTROL

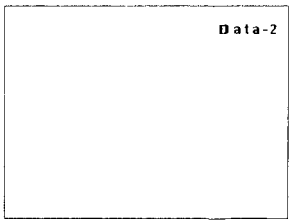
– The projector's picture is set to standard specifications at the factory. However, you can adjust the image to suit your own preferences by using the VIDEO or DATA ADJUST feature. The projector will store the last used settings for every source. So when you switch from one source to another, the settings of the source switched from will be stored and the settings of the source switched to will be recalled. When the projector is switched off and on again the settings for the selected source will be recalled again.
– Three memory modes allow you to adjust and save up to three sets of settings (see 'Personal Preferences').

Data display adjustments

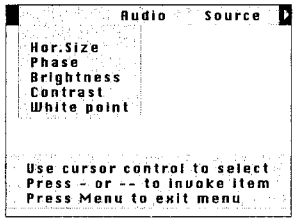
For data signal input, the following adjustments can be made:
– **shift** - adjusts the computer image in horizontal and vertical direction to centre it on the screen;
– **horizontal size** - adjusts the computer image in a horizontal direction to make the image completely fill the screen;
– **phase** - when connecting the projector to your PC for the first time, be sure to adjust the phase control for optimal readability of the projected text;
– **brightness** - adjusts the black level to the room brightness;
– **contrast** - adjusts the overall contrast intensity;
– **white point** - adjusts the overall picture impression from warm white to cool white.

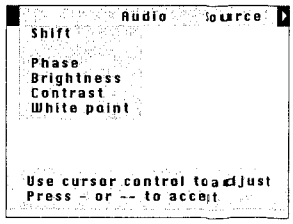
1. Press DATA 1 or DATA 2 to select data input.
– Data-1 or Data-2 appears on the screen.





2. Press MENU.
– The menu bar appears on the screen; DISPLAY is highlighted and its sub menu is shown.
3. Use Cursor Control to select the item to be adjusted.

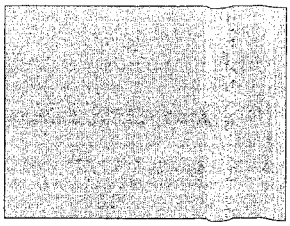




4. Press – or – – to activate the selected item.
5. Use Cursor Control to make the required adjustment in the action window.
6. Press – or – – to confirm and store the adjustment.
7. If required, select the next item to be adjusted or press MENU to exit.

Notes:

– *When you have selected the menu mode, you cannot use the source selection buttons on the projector or on the remote control to select another input. You can only change to another input via the SOURCE menu.*
– ***A**(audio)/**V**(video)**-mute** can only be selected with the A/V MUTE button on the projector or on the remote control. A/V mute then appears on the screen.*

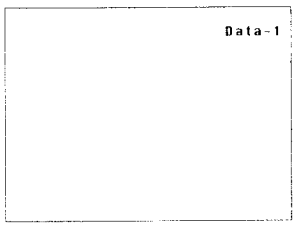


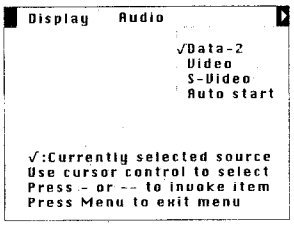
English

Data mode selection

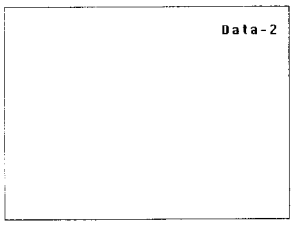
When set to AUTO, the projector can automatically identify the signal type of the connected computer. However, if the signal does not match the known computer signal standards, automatic identification can be overruled. The required data mode can then be selected as described below:

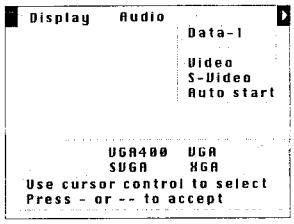
1. Select Data 1.
– Data-1 appears on the screen.
2. Press MENU.
– The menu bar appears on the screen.
3. Use Cursor Control to select SOURCE in the menu bar.
– DATA 1 is highlighted.





4. Press – or – – to activate the DATA 1 item.
5. Use Cursor Control to select the required data mode in the action window.
6. Press – or – – to confirm and store the adjustment.
7. Select the required data mode for DATA 2 in the same way.



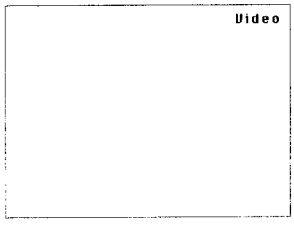


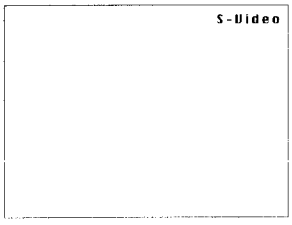
8. If required, select another item you wish to adjust or press MENU to exit.

Video display adjustments

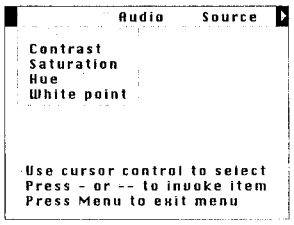
For video signal input, the following adjustments can be made:
– **brightness** - adjusts the black level to the room brightness;
– **contrast** - adjusts the overall contrast intensity;
– **saturation** - adjusts the colour saturation of the projected image;
– **hue** *(only for NTSC)* - adjusts the tint of the projected image;
– **white point** - adjusts the overall picture impression from warm white to cool white.

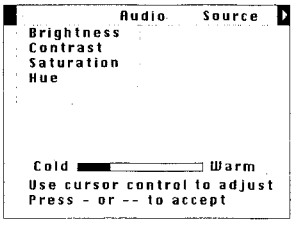
1. Press VIDEO to select video signal or S-video signal as the current projection source.
The button toggles between video and S-video signal.
– Video or S-Video appears on the screen.





2. Press MENU.
– The menu bar appears on the screen; DISPLAY is highlighted and its sub menu is shown.
3. Use Cursor Control to select the item to be adjusted.

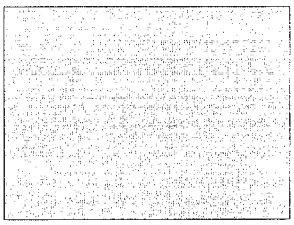




4. Press – or – – to activate the selected item.
5. Use Cursor Control to make the required adjustment in the action window.
6. Press – or – – to confirm and store the adjustment.
7. If required, select the next item to be adjusted or press MENU to exit.

Notes:

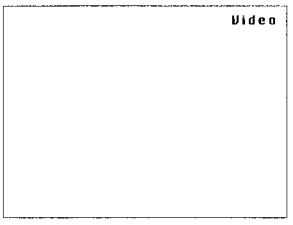
– *When you have selected the menu mode, you cannot use the source selection buttons on the projector or on the remote control to select another input. You can only change to another input via the SOURCE menu.*
– ***A****(audio)*/***V****(video)*-***mute*** *can can only be selected with the A/V MUTE button on the projector or on the remote control.*
A/V mute then appears on the screen.

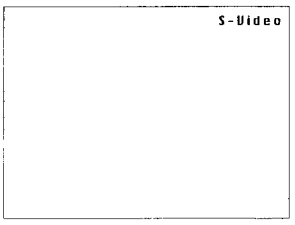


Video system selection

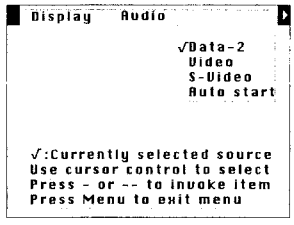
The Projector is equipped with full NTSC, PAL and SECAM video support. When set to AUTO, the broadcast format is automatically switched according to the video standard connected. If you experience poor colour however, you may have to set to NTSC, PAL, or SECAM as described below.

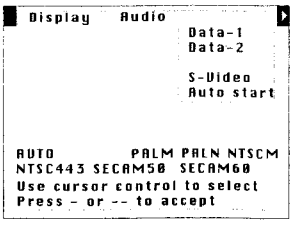
1. Press VIDEO to select video signal or S-video signal as the current projection source.
The button toggles between video and S-video signal.
– Video or S-Video appears on the screen.





2. Press MENU.
– The menu bar appears on the screen.
3. Use Cursor Control to select SOURCE in the menu bar.
4. Use Cursor Control to select VIDEO or S-video from the sub menu.





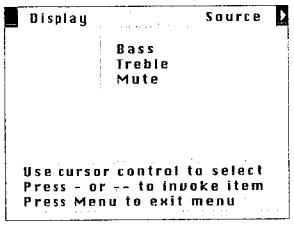
5. Press – or – – to activate the VIDEO or S-VIDEO item.
6. Use Cursor Control to select the required video system in the action window: AUTO, PAL, SECAM or NTSC.
7. Press – or – – to confirm and store the selected video system.
8. If required, select another item you wish to adjust or press MENU to exit.

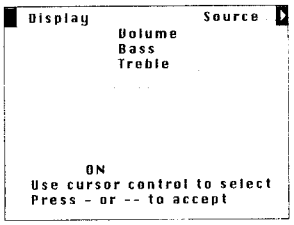
English

AUDIO CONTROL

The projector's sound is set to standard specifications at the factory. However, you can adjust the sound to suit your own preferences by using the SOUND CONTROL feature.
The following adjustments can be made:
- **volume** – adjusts the sound level;
- **bass** - adjusts the bass tones;
- **treble** - adjusts the high tones;
- **mute** - mutes the sound of the projector (or an externally connected loudspeaker);

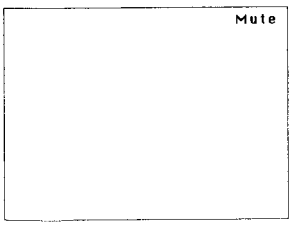
1. Select the required input (Video, S-Video, Data 1, Data 2).
2. Press MENU.
- The menu bar appears on the screen.
3. Use Cursor Control to select AUDIO in the menu bar.
4. Use Cursor Control to select the item to be adjusted.

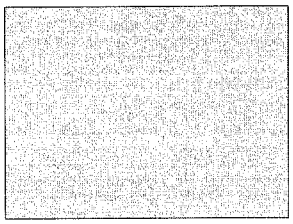




5. Press – or – – to activate the selected item.
6. Use Cursor Control to make the required adjustment in the action window.
7. Press – or – – to confirm and store the adjustment.
8. If required, select the next item to be adjusted or press MENU to exit.

Notes:
- *The volume can also be adjusted with the – VOLUME + buttons on the projector or on the remote control.*
- *When the projector is connected to an amplifier or stereo system, the volume must be adjusted on the amplifier or stereo system.*
- *Mute can also be selected with the MUTE button on the projector or on the remote control. Mute then appears on the screen.*
- ***A**(audio)/**V**(ideo)-**mute** can only be selected with the A/V MUTE button on the projector or on the remote control. A/V mute then appears on the screen.*



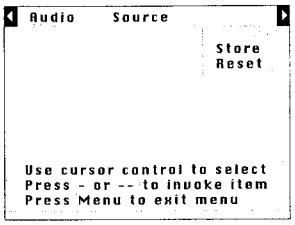


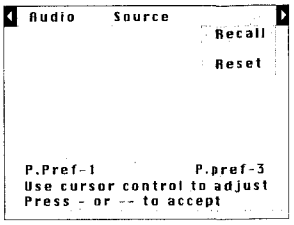
PERSONAL PREFERENCES

You can store up to three sets of settings. These settings can be called up at any time so you can use different sets of settings for different sources.

Storing Personal Preferences

1. Select the required input (Video, S-Video, Data 1, Data 2).
2. Make the required adjustments, as described under 'Picture Control' and 'Audio Control'.
3. Press MENU.
- The menu bar appears on the screen.
4. Use Cursor Control to select P. PREF (Personal Preferences) in the menu bar.
5. Use Cursor Control to select STORE from the submenu.

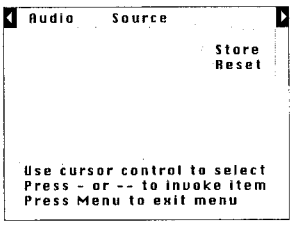


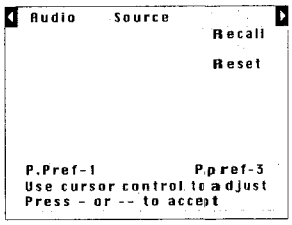


6. Press – or – – to activate the STORE item.
7. Use Cursor Control to select P. PREF 1, 2 or 3 in the action window.
8. Press – or – – to confirm and store the Personal Preferences.
9. If required, select another item you wish to adjust or press MENU to exit.

Calling up Personal Preferences

1. Select the required input (Video, S-Video, Data 1, Data 2).
2. Press MENU.
- The menu bar appears on the screen.
3. Use Cursor Control to select P. Pref (Personal Preferences) in the menu bar.
4. Use Cursor Control to select RECALL from the submenu.

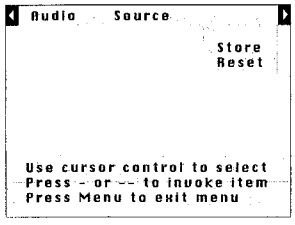


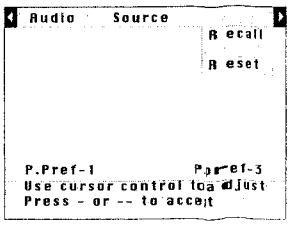


5. Press – or – – to activate the RECALL item.
6. Use Cursor Control to select the required Personal Preference (P. Pref 1, 2 or 3) in the action window.
7. Press – or – – to confirm and store the selection.
8. If required, select another item you wish to adjust or press MENU to exit.

Changing Personal Preferences

1. Select the required input (Video, S-Video, Data 1, Data 2).
2. Make the new adjustments, as described under 'Picture Control' and 'Audio Control'.
3. Press MENU.
- The menu bar appears on the screen.
4. Use Cursor Control to select P(ersonal) PREf(erences) in the menu bar.
5. Use Cursor Control to select STORE from the submenu.





6. Press – or – – to activate the STORE item.
7. Use Cursor Control to select P. PREF 1, 2 or 3 in the action window.
8. Press – or – – to confirm and store the new Personal Preferences.
9. If required, select another item you wish to adjust or press MENU to exit.

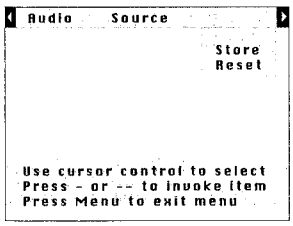
English

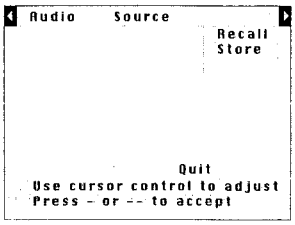
Resetting to the factory set default settings

1. Select the required input (Video, S-video, Data 1, Data 2).
2. Press MENU.

– The menu bar appears on the screen.

3. Use Cursor Control to select P. PREF (Personal Preferences) in the menu bar.
4. Use Cursor Control to select RESET from the submenu.

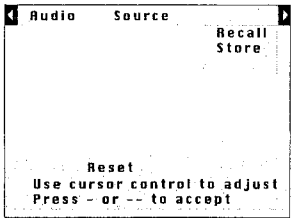




5. Press – or – – to activate the RESET item.
6. Use Cursor Control to select RESET if you wish to reset your Personal Preferences for the selected source to the factory set default settings.
7. Press – or – – to confirm and store the factory set default settings.
8. If required, select another item you wish to adjust or press MENU to exit.

If you wish to keep the old settings after all:

1. use Cursor Control to select QUIT in the action window.
2. Press – or – – to confirm.
3. If required, select another item you wish to adjust or press MENU to exit.



OTHER SETTINGS

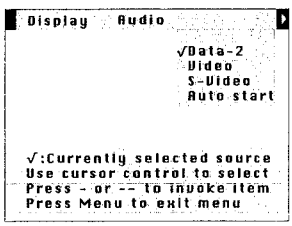
Default source selection

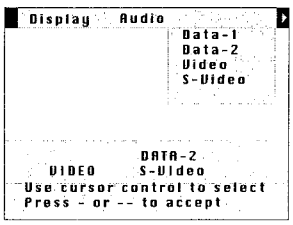
The Auto start command gives you the opportunity to define the input source with which your projector will start up.
For instance: if you select Video as your default (Auto start) source, the projector will select Video as the source when the projector is switched on.
Note: *The factory set default for Auto start is Data-1.*

1. Press MENU.

– The menu bar appears on the screen.

2. Use Cursor Control to select SOURCE in the menu bar.
3. Use Cursor Control to select AUTO START from the sub menu.

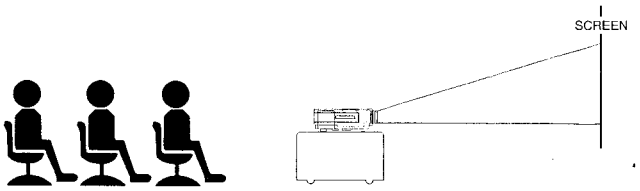




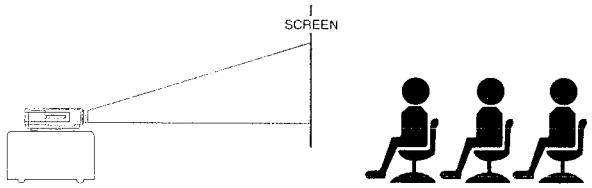
4. Press – or – – to activate the AUTO START item.
5. Use Cursor Control to select the required default source in the action window (Data 1, Data 2, Video or S-Video).
6. Press – or – – to confirm and store the default source.
7. If required, select another item you wish to adjust or press MENU to exit.

Rear screen projection

The image can be flipped to a vertical mirror image of the input signal for rear screen projection.



Front projection

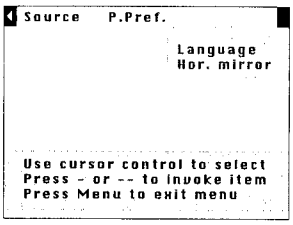


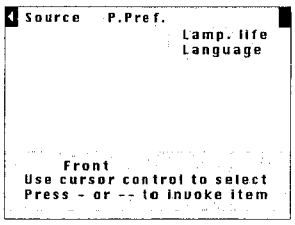
Rear projection

1. Press MENU.

– The menu bar appears on the screen.

2. Use cursor control to select MISC(ellaneous) in the menu bar.
3. Use Cursor Control to select HOR.(horizontal) MIRROR from the sub menu.





4. Press – or – – to activate the HOR. MIRROR item.
5. Use Cursor Control to select REAR in the action window.
6. Press – or – – to confirm and store the selection.
7. If required, select another item you wish to adjust or press MENU to exit.

INSTALLING THE REMOTE CONTROL SOFTWARE

This chapter describes how to install and use your pointing device software with Windows® 95 and Windows 3.x. Installation is only necessary if the mouse cursor cannot be manipulated by the remote control Cursor Control, after making all necessary connections.

For Macintosh users:

1. Turn off your computer and connect the supplied remote mouse cable (ADB) between the projector and the ADB port
2. Switch-on your computer; you can immediately operate your mouse via the Remote Control

For PC users:

1. Turn off your PC and connect the supplied remote mouse cable (RS232) between the computer and the projector
2. Switch-on your PC; you can now operate your mouse via the remote control; *if not, please continue:*

Please continue with the following instructions, if this is the first time that you use the Remote control mouse function with your PC.

...continue for Windows 3.1 users:

1. Insert the diskette (disk 1 of 2) into drive A or B to load the proper mouse driver.
2. Open the FILE menu and choose the RUN command.
- The RUN dialog box is displayed.
3. Type A:\SETUP or B:\SETUP and click OK.
- The INSTALLATION/SETUP dialog box is displayed.
4. Choose your language, then choose express set-up; follow the on-screen installation instructions.
- You can now operate your remote mouse!

...continue for Windows 95 users:

- A dialog box appears, asking to install a new hardware driver for a Logitech Serial Mouse.
- Select the Windows default driver (click OK).
- You should now be able to control your PC mouse via the Remote Control
- ***If not,*** the PC will prompt you to insert a disk or CD-ROM.

1. Click OK.
2. Cancel (close) the following dialog boxes until you return in the main Windows 95 screen.
3. Click the START button on the Windows 95 Taskbar and select the RUN command.
- The RUN dialog box is displayed.
4. Insert the diskette (disk 1 of 2) into drive A or B to load the proper mouse driver.
5. Type A:\SETUP or B:\SETUP and click OK.
6. Choose your language, then choose express set-up; the PC will also prompt you to insert disk 2. Follow the on-screen installation instructions.
7. After reboot, click NO or CANCEL on any following question.
- You can now operate your remote mouse!

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English

CLEANING

CAUTION: *Switch off and disconnect the projector before cleaning.*

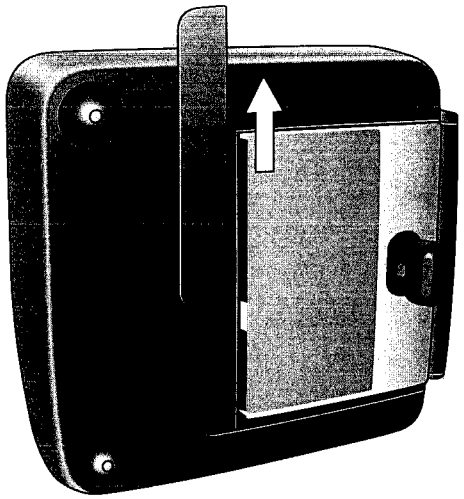
1. When the cabinet is dusty, clean it by gently wiping with a soft cloth.
2. A chamois leather slightly moistened with water is sufficient for cleaning the housing.
3. Do not use cleaning agents as they may harm the housing.

Always keep the lens clean

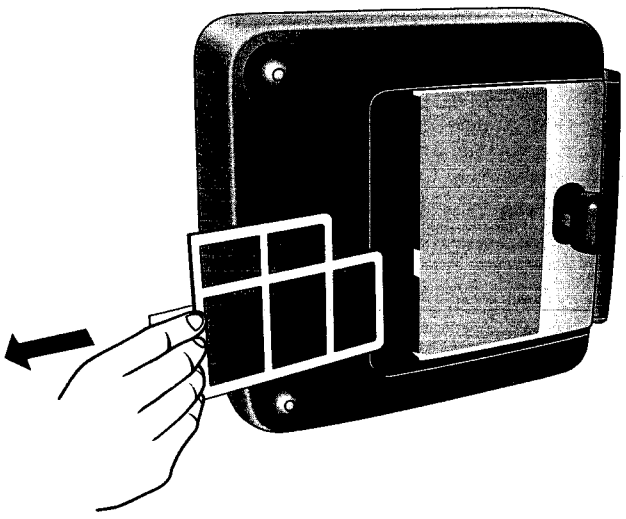
1. When the lens is dirty or dusty, first blow the off and then gently wipe with a soft brush or lens cleaning paper. Never touch the lens with your fingers.
2. The lens is likely to become mouldy if left dirty.

CLEANING THE DUST FILTER

1. Set the ON/OFF Switch to OFF and unplug the mains lead.
2. Wait until the cooling fan stops.
3. Place the projector on its side, *but never on the side where the connections are located!*
4. Open the filter compartment by pressing and sliding the lid upwards.



5. Remove the filter from the compartment as indicated.



6. While firmly holding the filter, gently remove any accumulated dust with a vacuum cleaner.
7. Replace the filter.
8. Replace the lid by pressing and sliding it downward.

Notes:

- *We advise you to clean the filter every 100 hours.*
- *Operating the projector with a torn or damaged filter may cause damage to the projector.*
- *When the filter is damaged replace it with a filter of the same type (12 nc: 4822 480 10152).*
- *The projector power cannot be switched on again unless the filter holder is installed correctly.*

MAINTENANCE YOUR REMOTE CONTROL

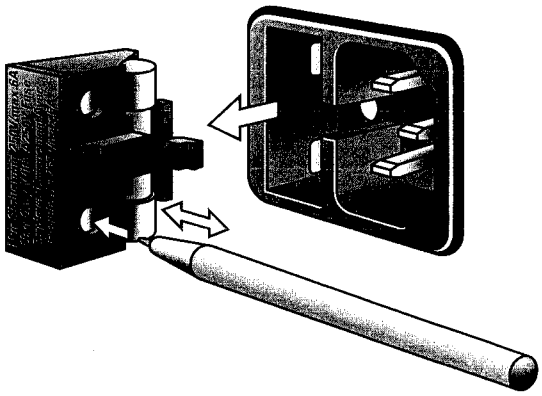
Your trackball on the remote control is very durable and will provide years of use. It has a self-cleaning ball-cage that helps prevent dust and lint built-up around the ball. If the screen cursor jumps or moves abnormally, we recommend that you clean the trackball manually.

To clean your trackball

1. Turn the retainer ring counter-clockwise to remove the ball.
2. Wipe the ball with a clean, lint-free cloth.
3. Blow carefully into the ball cage to dislodge dust and lint.
4. Look for a built-up of dirt on the rubber rollers inside the ball cage. This build-up usually appears as a stripe running around the middle of the roller.
5. If dirty, clean the rollers using a cotton swab moistened lightly with isopropyl (rubbing) alcohol. After cleaning, make sure the rollers are still centered in their channels.
6. Make sure that fluff from the swab is not left on the rollers.
7. Replace the ball and retainer ring.

REPLACING THE FUSE

1. Remove the fuse holder as indicated.
2. Take out the old fuse.
3. Push the spare fuse out of its compartment using a pencil and place it in the fuse holder.
4. Replace the fuse holder.

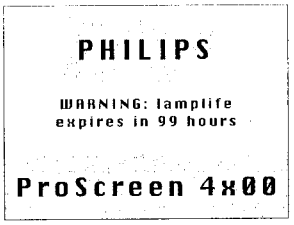


Note: *When replacing the fuse, always use the same type of fuse: WICKMANN 19181.4AT - 250V. (High breaking 4 Amp Time-lag; 5 x 20 mm.)*

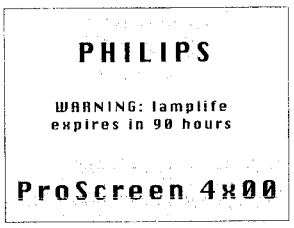
English

LAMP

- The projector lamp has a limited operating life of approximately 6000 hours.
  When operation time reaches 5900 hours, the message 'WARNING: Lamplife expires in 99 hours' will be displayed on the screen when switching the projector on.



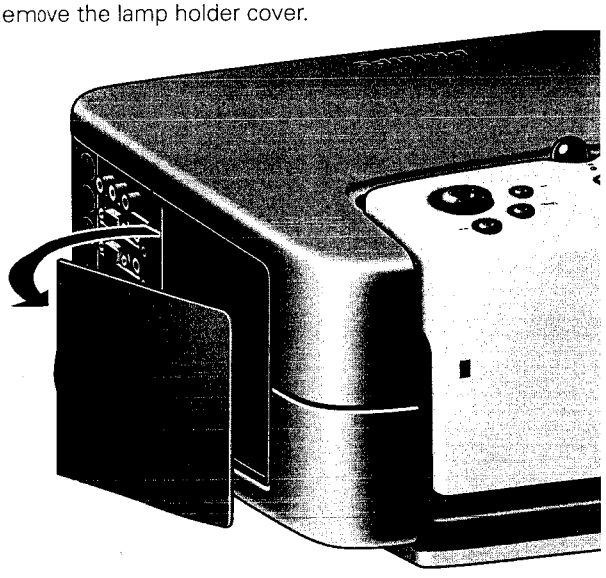
- Then, each time the projector is switched on, the lamplife remaining will be displayed for 10 seconds.



- When the lamplife is expired, this will be displayed on the screen.

LAMP REPLACEMENT

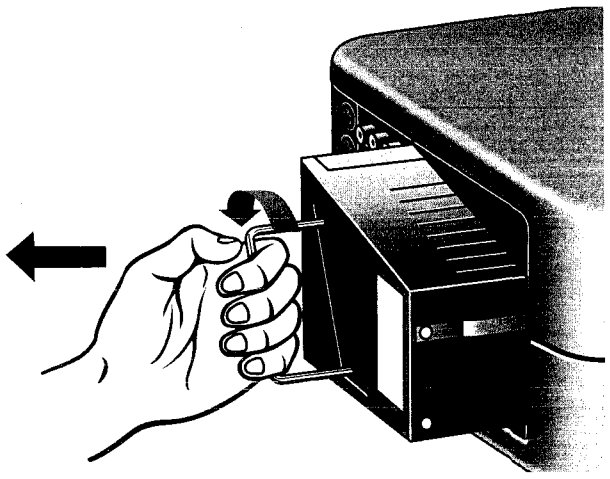
1. Set the ON/OFF Switch to OFF.
2. Unplug the mains lead.
3. Wait *5 minutes* for the lamp to cool down.
4. Read the caution and warning labels on the lamp cover.
5. Remove the lamp holder cover.



6. Turn the handle to the left (about 30°) and carefully pull the lamp holder out of the projector.

   Caution: *Be very careful. The lamp holder may still be too hot to touch.*

   Keep lamp holder opening to your right. *Do not* touch lamp or point lamp holder opening at anyone.



Warning: *The lamp may be hot. Be careful when handling.*

Caution: *A high-pressure lamp may break if handled improperly.*

7. Carefully remove the new lamp housing from its package. *Do not* touch lamp or point lamp housing opening at anyone. *Do not* drop, as the impact may cause the lamp to break.
8. Insert the new lamp holder and lock it by turning the handle to the right.
9. Replace the lamp holder cover
10. Plug the projector back in by inserting the mains lead in the MAINS socket.
11. Set the ON/OFF switch to ON.
12. Reset the lamp life time (see 'Resetting the lamplife time').
13. Properly dispose of the old lamp.

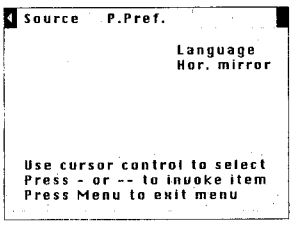
Note: *When replacing the lamp, always use the same type of lamp (LCA 3104 3104/00, 12nc: 8670 931 04009).*

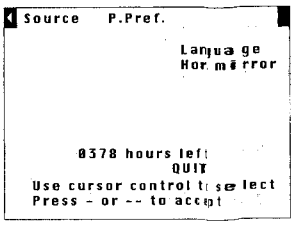
Resetting the lamplife time

1. Press MENU.

– The menu bar appears on the screen.

2. Use cursor control to select MISC(ellaneous) in the menu bar.
3. LAMP LIFE is highlighted.





4. Press – or – – to activate the LAMP LIFE item.
5. Use cursor control to select RESET in the action window.
6. Press – or – – to confirm.
7. If you do not wish to reset the lamp life time after all, use cursor control to select QUIT in the action window

10. TROUBLESHOOTING

If a fault occurs, first check the points listed below before taking the projector for repair.
If you are unable to remedy a problem by following these hints, consult your dealer or service organisation.

WARNING
Under no circumstances should you try to repair the projector yourself as this could invalidate the warranty.

PROBLEM

– *POSSIBLE CAUSE*
• SOLUTION

Image is not displayed

– *Mains lead is not correctly connected.*
• Correctly connect mains lead.
Warning: *Make sure the voltage selector is set to your local mains voltage (115V or 230V). If an incorrect voltage is selected, tthe fuse will burn out and the projector will not operate! See also 'Replacing the fuse' under 'Maintenance'.*

– *Lamp holder cover is not closed correctly.*
• Close the cover correctly (see 'Lamp replacement' under '9. Additional Information').

– *Signal cable not correctly connected.*
• Connect signal cable correctly.

– *ON/OFF switch is in OFF position.*
• Set the ON/OFF switch to ON.

Lamp does not light up (indicator lights up red)

– *Lamp is still hot while the projector attempts to restart the lamp.*
• Do not switch the set off; it will restart the lamp automatically within a few seconds.

– *The filter holder is not installed correctly.*
• Install the filter holder correctly (see 'Cleaning the dust filter' under '9. Additional Information').

– *Worn-out lamp.*
• Replace lamp (see 'Maintenance').

– *Lamp circuit failure.*
• Take the projector to your nearest Service Centre.

– *Fault inside the projector.*
• Take the projector to your nearest Service Centre.

Poor colour

– *Wrong video system has been selected.*
• Select the correct video system (see 'Video system selection' under 'Picture Control').
• Adjust brightness, contrast, saturation or hue (see 'Video adjustments' under 'Picture Control').

Image is blurred

– *Image is not focused.*
• Adjust focus ring.

– *Distance between projector and 'screen' is not correct.*
• Adjust the distance (See 'Distance between the projector and the screen').

– *Signal cable is not correctly connected.*
• Connect signal cable correctly.

Image does not match up with the projected screen

– *Horizontal or vertical shift or horizontal size are not adjusted correctly.*
• Adjust horizontal or vertical shift or horizontal size (See 'Data adjustments' under 'Picture Control').

Picture rolls

– *Signal cable is not correctly connected.*
• Connect signal cable correctly.

No sound

– *Audio cable is not correctly connected.*
• Connect audio cable correctly.

– *Volume is not adjusted.*
• Adjust volume.

– *Mute or A/V-mute is active.*
• Cancel mute or A/V-mute.

The projector does not react to commands from the remote control

– *Remote control is not switched on.*
• Switch on the remote control.

– *Distance is too great.*
• Reduce distance.

– *Batteries are exhausted.*
• Replace batteries (see 'Inserting the batteries in the remote control').

– *IR sensor is obstructed.*
• Remove obstacle.